

REMARKS

The Office Action dated March 31, 2003 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. In view of the following discussion, favorable consideration of claims 1-8 is respectfully requested.

Claims 2 and 4 were rejected under 35 U.S.C. § 112, first paragraph. Specifically, the Examiner states that the newly added limitation of "sharing said semiconductor memory as bus masters" is not supported in the specification. Applicants respectfully submit that every feature is described clearly and distinctly in the specification. The Office Action takes the position that the feature of "sharing said semiconductor memory as bus masters", as recited in claims 2 and 4, is not supported in the specification. Applicants respectfully disagree.

As to a description supporting the limitation of "sharing said semiconductor memory as bus masters" shown in claims 2 and 4, there is a description that "the central processor, the graphics processor and the sound processor share a memory space, and the semiconductor memory is allocated within the shared memory space". See Page 6, lines 9-11, Page 17, lines 14-18 and Page 23, lines 11-14. Although, the word "bus masters" is not utilized in the specification, It is submitted that each of the processors fetches the program and/or the data included in the software so as to perform the process on page 17, line 15 to page 18, line 5 of the specification. The software is stored in the semiconductor memory, and therefore, it can be said that a unit, which issues the address to the common bus and performs a data access is the "bus master". Therefore, Applicants submit that the limitation recited in claims 2 and 4 is supported in the specification. Accordingly, Applicants request that the rejection of claims 2 and 4 under 35 U.S.C. 112 be withdrawn.

Claims 1-4, 7 and 8 were rejected under 35 USC § 103(a) as being unpatentable over Kikuchi (U.S. Patent No. 6,227,973). The Office Action takes the position that Kikuchi teaches all of the limitations of claims 1-4, 7 and 8. Applicants respectfully disagree.

Claim 1 is directed to an information processing apparatus for outputting video and audio signals to a home TV set. The apparatus comprises a man-machine interface, a semiconductor memory and an information processor. The man-machine interface converts into an electrical signal, one or plurality of urging force, movement in a space,

sound information that is given by a human to the man-machine interface. The apparatus includes a semiconductor memory storing software for driving the information. The software is configured by an operating system, the information processor hardware driver, a man-machine interface driver, and an application software engine and the application software contents portion. The operating system administers at least a state control of all the tasks included in the present software, task scheduling, shared resource control between tasks, and interrupt control. The information processor hardware driver efficiently handles hardware resources in the information processor and configured by a driver program and driver data. The driver program includes one or more tasks and subroutines, and is utilized in a function according to the task execution or a subroutine call from the application software engine. The driver data is a set of data that is handled by the driver program. The man-machine interface driver efficiently delivers the electrical signal from the man-machine interface to the application software engine, and includes one or more tasks and subroutines, and is utilized according to a task execution or a subroutine call from the application software engine. The application software performs a process relied upon by an application kind among regular processes that is required by the application software contents portion and includes one or more tasks and subroutines. It is utilized in the task execution function or subroutine call from the application software contents program. The application software contents portion is configured by the application software contents program and application software contents data. The application software contents program is a program code for a particular process to achieve an objective of the present information processing apparatus and includes one or more tasks. The application software contents data is a set of data that is handled by the application software contents program or the application software engine. The information processor performs an operation process based on an electrical signal from the man-machine interface and software stored in the semiconductor memory, and produces image information and sound information.

Claim 3 is directed to an information processing apparatus for outputting video and audio signals to a home TV set. The information processing apparatus comprises a man-machine interface, semiconductor memory, and an information processor. The man-machine interface converts into an electrical signal one or a plurality of urging force, in-

space movement, sound information that is given by a human to the present man-machine interface. The semiconductor memory storing software drives the information processor. The software is configured by an operating system, an information processor hardware driver, a man-machine interface driver, a script language interpreter, an application software contents portion. The operating system administering at least status control of all the tasks included in the present software, task scheduling, shared resource control between tasks, and interrupt control. The information processor hardware driver efficiently handles a hardware resource in the information processor and is configured by a driver program and driver data. The driver program includes totally one or more tasks and subroutines and is utilized in function according to a task execution or subroutine call from the script language interpreter. The driver data is a set of data that is handled by the driver program. The man-machine interface driver efficiently delivers the electrical information from the man-machine interface to the script language interpreter and includes totally one or more tasks and subroutines, and is utilized in a function according to task execution or a subroutine call from the script language.

The script language interpreter sequentially interprets a script language source code to produce and execute an object code interpretable by the information processor. The application software contents portion is configured by a script language source code and the application software contents data. The script language source code is a program for particular process to achieve an objective of the present information processing apparatus. The application software contents data is a set of data that is handled by the script language source code or the script language interpreter. The information processor performs an operation process based on an electrical signal from the man-machine interface and the software stored in the semiconductor memory, producing image information, and sound information.

Kikuchi is directed to a video game system that comprises a game machine assembly and a recording medium, which stores a game program. Kikuchi discloses a game machine assembly that includes a CPU, a graphic data processor, a memory, and software incorporating video game technology. Kikuchi also discloses that when a recording medium is inserted into the video game system, the CPU instructs the recording medium driver to read the game program data from the recording medium based on the

operating system stored in the ROM. The recording medium driver then reads the graphic image data, audio data, and game program data from the recording medium. The CPU then executes the video game based on the game program data stored in the main memory and commands entered into the controller by the user. The CPU controls the image processing, audio processing, and the internal processing operations based on commands entered by the user.

Kikuchi, however, does not teach or suggest an information processor, as recited in claims 1 and 3. In particular, Kikuchi does not teach or suggest an information processor that can handle hardware resources and which is configured by a driver program and driver data. Kikuchi merely discloses that the graphics image data; the audio data and the game program are read from the recording medium (See col. 8, lines 50-56).

The Office Action takes the position that the information processor hardware driver shown in claims 1 and 3 is simply provided so as to efficiently handle the hardware resources in the information processor and does not clearly indicate whether or not to access an interface external to the device. It is submitted that the information processor hardware driver is not for interpreting the input from the external interface such as mouse, trackball, etc., but for efficiently using the hardware resources inside the processor such as graphics processor, sound processor, DMA controller and the like. See page 16, lines 17-23 and page 30, line 1 to page 31, line 25 of the specification.

The graphic processor and the audio processor shown in Kikuchi are connected to the common bus. As a result, there is no disclosure of using bus masters. Taking the audio processor as an example, ADPCM data provided from a decoder is stored in a buffer connected to the audio processor. The audio processor successively reads the ADPCM data stored in the buffer so as to reproduce a sound. Then, the audio processor actively performs a data reading on only the buffer being a local memory of the audio processor. However, it is not submitted that the audio processor issues an address and a control signal to the common bus so as to actively perform the data reading from the resources connected to the common bus such as main memory and so on. The same is true for the graphics processor, and these are connected to the common buses as bus slaves. Thus, Kikuchi fails to teach or suggest the use of bus masters.

Furthermore, the application software engine in this application is neither suggested nor disclosed in Kikuchi. Kikuchi merely discloses a software contents portion, which is not the same as the application software engine of the present invention. The application software engine shown in the application is, as shown on page 5, lines 16-24 of the specification, for performing a process depending upon a kind of application among regular processes required by the application software contents portion. In addition, it is a concept newly introduced for the purpose of efficiently performing the development of applications, by giving clear definition to interfaces between other software modules.

As shown on page 14, lines 19-23 of the specification, the application software engine may be realized by wired logic hardware in place of software. This is a description, which characterizes the application software engine in the present application. Also, the configuration examples of the application software engine in the first and second embodiments and the operation of each related module are described in the specification on Page 32, lines 14 to Page 36, line 15 and Page 48, line 4 to Page 50, line 17. In other words, the application software engine and the application software contents portion are not the same, as suggested by the Office Action. Also, Kikuchi has no description relating to a function depending upon modules and an interface specification between the respective modules. Thus, Kikuchi fails to teach or suggest an application software engine, as recited in claims 1 and 3. Accordingly, Applicants request the withdrawal of the rejection of claims 1 and 3 under 35 U.S.C. 103(a).

Claims 2 and 4-8 are dependent upon claims 1 and 3. Therefore, it is submitted that claims 2, and 4-8 recite subject matter that is neither taught nor suggested by the applied reference for at least the reasons mentioned above. Accordingly, Applicants request the withdrawal of the rejection of claims 2 and 4-8 under 35 U.S.C. 103(a).

Claims 5 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kikuchi in view of Eilat (U.S. Patent No. 6,227,974 B1). The Office Action takes the position that the combination of Kikuchi and Eilat teach or suggest all the features recited in claims 5 and 6.

It is respectfully submitted that Eilat is not a proper reference. Eilat has a patent date of May 8, 2001 and a filing date of January 7, 1999. The present application was filed on January 29, 1999 with a priority date of December 30, 1998. Therefore, it is submitted

that Eilat is not a proper reference under 35 U.S.C. 103(a). A verified English Translation of Japanese Patent Application has already been submitted. Therefore, Applicants respectfully request the removal of Eilat as a reference. Accordingly, Applicants request the withdrawal of the rejection of claims 5 and 6 under 35 U.S.C. 103(a).

In view of the above remarks, Applicants respectfully request the withdrawal of the rejections to claims 1-8. Therefore, Applicants submit that the application is now in condition for allowance with claims 1-8 contained therein.

Should the Examiner believe the application is not in condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. The Commissioner is authorized to charge payment for any additional fees which may be required with respect to this paper to Counsel's Deposit Account 01-2300.

Respectfully submitted,

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Enclosure: Petition for Extension of Time
Notice of Appeal